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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,643	10/16/2001	Leo W.M. Lau	CUH-003.00/16678US01	7018
23446	7590	12/12/2006	EXAMINER	
MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661			TURNER, ARCHENE A	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/981,643	LAU ET AL.	
	Examiner	Art Unit	
	Archene Turner	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-9, 11, 14, 16, 18-50, 54, 56-58 and 63-71 is/are pending in the application.
- 4a) Of the above claim(s) 9, 11, 16, 18-50, 54 and 56-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-8, 14 and 63-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 6-7,14,63-68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase 'metal-rich' renders the claims indefinite. Applicant's arguments filed 9/26/06 have been fully considered but they are not persuasive. While the attached articles are helpful for the term, the compositions disclosed clearly specify the atomic component amounts within the material, like claim 8 and thus the rejection stands. The term is also not clear to whether the term is related to the metals disclosed or another metallic material.

The examiner suggests that amending the claims to state that the amount of said aluminum and zirconium is higher than the said oxycarbonitride, would overcome this rejection.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 6,7,14, 63-68 are rejected under 35 U.S.C. 102(b) as being anticipated by Ven Hartmetallw Immelbor (DD 288631) or Ver Edelstahlwerke AG (EP 149449).

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The rejection is maintained and applied to newly presented claims for reasons of record in the previous office action. Applicant's arguments filed 9/26/06 have been fully considered but they are not persuasive.

The examiner describes the composition of DD 288631 different than the applicant. The reference discloses that oxycarbonitrides of Ti OR Zr OR Hf or mixtures thereof may include an alumina phase having the Al content of 5-50 pts. Because the example disclosed in the English abstract uses the combination of Ti and Al, the reference is NOT limited to only that composition. Thus the description anticipates the claimed invention and the rejection firmly stands. The newly presented hardness and CIELAB values are considered inherent to the zirconium aluminum oxycarbonitride disclosed by the reference.

Similarly, EP 149449 discloses that either an oxycarbonitride of Ti OR Zr may include 0.1-2.5 atomic % Al. Examples 4 and 5 include a Zr compound with Al and so the examiner does NOT agree that there are no teachings of a Al-Zr compound provided for in the reference and thus the rejection stands. The applicant also argues that the reference does not provide for Zr-Al oxycarbonitrides being metal-rich yet the applicant has not provided any factual evidence to support this position and the rejection stands. The newly presented hardness and CIELAB values are considered inherent to the zirconium aluminum oxycarbonitride disclosed by the reference.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-8, 14, 63-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gates, Jr (4,714,66).

The rejection is maintained and applied to newly presented claims for reasons of record in the previous office action. Applicant's arguments filed 9/26/06 have been fully considered but they are not persuasive. The applicant argues that none of the references even show an Al-Zr compound, but the applicant is mistaken. The example 7 in Gates clearly shows that Zr-Al can be used to form an oxycarbonitride compound AND as color was monitored in Table 1, it suggests that the proportions of a metallic oxycarbonitride can be varied to impact color. The rejection of Gates is firmly maintained based on how the reference clearly teaches that proportions within an Al-Zr oxycarbonitride may be varied to impact performance.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Archene Turner whose new telephone number is (571) 272-1545. The examiner can normally be reached on Monday, Wednesday through Friday from 10:30 am. to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Please remember to include on the fax, the art unit 1775, serial number and Examiner's name.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'A. A. Turner', with a long horizontal line extending to the right.

A. A. Turner
Primary Examiner
Group 1700

aat